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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,711	05/03/2005	Dagnachew Birru	USO20423	7843
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EXAMINER TAYONG, HELENE E				
ART UNIT 2611		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/533,711

Applicant(s)

BIRRU, DAGNACHEW

Examiner

HELENE TAYONG

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2008.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-3, 6-8 and 11-19 is/are rejected.
7) ☒ Claim(s) 4, 5, 9, 10 and 20 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 27 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment filed on 9/23/08.
Claims 1-20 are pending in this application and have been considered below.

Response to Arguments

2. Applicants arguments regarding the rejection of claims 1-20 under 35 U.S.C. 103(a) as being unpatentable over Choi et al (US 7092455, see IDS) in view of Brett et al (US 20020001349) have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 11-16 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 6-8, 11-13, 16-18 and 19 are rejected under 35 U.S.C. 103(a) as being anticipated over Birru et al (US 7111221) in view of Choi et al (US 6760077).

(1) with regards to claims 1 and 11;

Birru et al discloses in (fig. 24) a system/method for multiplexed (210) transmission of normal (208) and robust digital video data (206) (see abstract and col.5, lines 17-46), comprising:

a multiplexer (210) switching between normal (208) and robust data inputs (206) (col.5, lines 17-46);

one or more units randomizing (105), formatting (110), interleaving(120) (col.5, lines 17-46); and

Birru et al discloses all of the subject matter discussed above, but does not explicitly teach a processing unit deinterleaving encoded data packets produced by the one or more units, removing a trailing portion from each encoded data packet, and derandomizing a remaining portion of each encoded data packet.

However, Choi et al, in the same endeavor (VSB transmission/reception system) discloses in (fig. 2, 150) a block diagram of the ATSC 8T-VSB reception system. The reception system includes a bit-to-byte converter and trellis deinterleaver (col. 4, lines

38-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the bit-to-byte converter and trellis deinterleaver as taught by Choi et al since they are equivalence for their use in correcting signal and carry out reverse action of the data interleaver in the art and the selection of any of these known equivalents to correcting signal would be within the level of ordinary skill in the art.

(2) with regards to claims 2 and 12;

Birru et al further discloses wherein the multiplexer (fig. 4, 210), the one or more units (105), and the processing unit (205) form a portion of an enhanced vestigial sideband (VSB) encoder (fig.4), the one or more units further comprising a data randomizer(105) a Reed Solomon encoder(110), an interleaver and packet formatter(120) (col. 5, lines 17-46) .

a main interleaver (120) and a trellis encoder (330) each operating in sequence on data from the multiplexer (209) to generate the encoded data packets (fig. 5).

(2) with regards to claims 3 and 13;

Birru et al further discloses a parity byte generator (125) operating in conjunction with the trellis encoder (330) to generate parity bytes for normal data switched by the multiplexer (210).

(4) with regards to claims 6 and 16;

Birru et al discloses in (fig. 4) the processing unit (203,204) further comprises, a main deinterleaver (204-1) operating sequentially on data packets received from the one or more units (202, 203); and

a derandomizer (204-3) operating on data packets after removal of the trailing portion (204-2).

Birru et al discloses all of the subject matter discussed above, but for explicitly teaching wherein the processing unit further comprises: a main deinterleaver operating sequentially on data packets received from the one or more units ;

a derandomizer operating on data packets after removal of the trailing portion and a bit-to-byte converter and trellis deinterleaver.

However, Choi et al, '077' in the same endeavor (VSB transmission/reception system) discloses in (fig. 2, 150) a block diagram of the ATSC 8T-VSB reception system. The reception system includes a main deinterleaver , a bit-to-byte converter and trellis deinterleaver , a derandomizer (col. 4, lines 38-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ATSC 8T-VSB reception system as taught by Choi et al, '077' since they are equivalence for their use in correcting signal and carry out reverse action of the data interleaver in the art and the selection of any of these known equivalents to correcting signal would be within the level of ordinary skill in the art.

(5) with regards to claims 7 and 17;

Birru et al further discloses (in fig. 4) wherein the processing unit 208) forwards

packets (MPEG data) generated by the enhanced vestigial sideband encoder ((from 330) to a standard vestigial sideband modulator (170).

(6) with regards to claims 8 and 18;

Birru et al further discloses wherein the standard vestigial sideband modulator (fig. 1, col. 1, lines 39-65) further comprises:

a data randomizer (105) , a Reed Solomon encoder (110), an interleaver (120) and a trellis encoder (330) operating sequentially on data packets received from the enhanced vestigial sideband encoder (fig. 1, col. 1, lines 39-65);

a multiplexer (140) switching data packets generated by the standard vestigial sideband modulator with synchronization signals; and

an antenna (180) transmitting signals corresponding to the switched data (140) packets and synchronization signals (fig. 1, col. 1, lines 39-65)

(7) with regards to claim 19;

Birru et al discloses in (fig.4) a system for multiplexed transmission of normal and robust digital video data (210), comprising:

an enhanced vestigial sideband (VSB) encoder having normal and robust data inputs (input to 105) and including:

a multiplexer (210) switching between the normal and robust data inputs;

a data randomizer (105) , a Reed Solomon encoder (110) , an interleaver and packet formatter (120),

a standard vestigial sideband modulator (fig.1) receiving data packets from the enhanced vestigial sideband encoderand including: a data randomizer (105), a Reed

Solomon encoder (110), an interleaver (120) and a trellis encoder(330) operating sequentially on data packets received from the enhanced vestigial sideband encoder (fig.1);

a multiplexer (140) switching data packets generated by the data randomizer (105), Reed Solomon encoder(110), interleaver(120) and trellis encoder (330) with synchronization signals (fixed sync signals and segment sync signals); and

an antenna (180) transmitting signals corresponding to the switched data packets and synchronization signals (fig.1).

Birru et al discloses all of the subject matter discussed above, but for explicitly teaching a processing unit deinterleaving encoded data packets produced by the data randomizer ,Reed Solomon encoder, interleaver and packet formatter, removing a trailing portion from each encoded data packet , and derandomizing a remaining portion of each encoded data packet; and

Birru et al discloses all of the subject matter discussed above, but for explicitly teaching a main interleaver and a trellis encoder each operating in sequence on data from the multiplexer to randomize, format, interleave and encode data from the multiplexer and generate the encoded data packets; However, Choi et al, '077' in the same endeavor (VSB transmission/reception system) discloses in (fig. 2, 150) a block diagram of the ATSC 8T-VSB reception system. The reception system includes a main deinterleaver , a bit-to-byte converter and trellis deinterleaver , a derandomizer (col. 4, lines 38-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the ATSC 8T-VSB reception system as taught by Choi et al, '077' since they are equivalence for their use in correcting signal and carry out reverse action of the data interleaver in the art and the selection of any of these known equivalents to correcting signal would be within the level of ordinary skill in the art.

Allowable Subject Matter

6. Claims 4, 5, 9, 10 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior arts of record Choi et al (US 7450613) and Choi et al (US 6760077) do not disclose the processing unit removes the trailing portion equal to a number of bytes required to form Motion Picture Expert Group (MPEG) compliant packets and wherein the removed trailing portion comprises parity bytes for data packets containing normal data and encoded data for data packets containing robust data.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee (US 5619269) discloses Frame sync signal for digital transmission system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELENE TAYONG whose telephone number is (571)270-1675. The examiner can normally be reached on Monday-Friday 8:00 am to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Liu Shuwang can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Helene Tayong/
Examiner, Art Unit 2611

November 29, 2008
/Shuwang Liu/
Supervisory Patent Examiner, Art Unit 2611